

SC/wy 011302US  
December 21, 2001

C l a i m s

What is claimed is:

1. A method for acknowledging reception of messages in a communications system, which messages are downlink messages transmitted from a communication network to a mobile station connected to said communication network, wherein said method comprises:
  - receiving at said mobile station at least two downlink messages from said communication network, of which at least two downlink messages reception has to be acknowledged; and
  - acknowledging reception of said at least two downlink messages in a single uplink message transmitted by said mobile station to said communication network.
2. A method according to claim 1, wherein said communication network comprises a GSM/EDGE (Global system for mobile communications / enhanced data rates for GSM evolution) radio access network (GERAN) via which said mobile station is connected to said communication network.
3. A method according to claim 1, wherein said at least two downlink messages are control messages transmitted in at least two downlink temporary block flows (TBF) associated to said mobile station.

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4. A method according to claim 1, wherein said uplink message is transmitted in an uplink control channel associated to a downlink temporary block flow (TBF), which downlink TBF is associated to said mobile station.
5. A method according to claim 4, wherein said uplink message is transmitted as a single packet control acknowledgement (PCA) message on a reserved uplink radio block of four consecutive time division multiple access (TDMA) frames of said control channel.
6. A method according to claim 1, wherein an uplink radio block that is to be employed for transmitting said uplink message acknowledging reception of said at least two downlink messages is identified in each of said at least two downlink messages.
7. A method according to claim 1, wherein said uplink message acknowledging reception of said at least two downlink messages comprises an identification of each of said at least two downlink messages.
8. A method according to claim 7, wherein said at least two downlink messages are control messages transmitted in at least two downlink temporary block flows (TBF), and wherein said identification comprises at least a temporary block flow identifier (TFI) assigned to each TBF.

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9. A method according to claim 7, wherein said at least two downlink messages are control messages transmitted in at least two downlink temporary block flows (TBF), and wherein said identification comprises at least a timeslot number of a predetermined timeslot of each TBF.
10. A method according to claim 1, wherein said uplink message is transmitted using a radio link control / medium access control (RLC/MAC) control block format.
11. A method according to claim 10, wherein said RLC/MAC control block format provides at least two identification fields, and wherein at least two of said at least two identification fields identify a different one of said at least two downlink messages that are to be acknowledged by said single uplink message.
12. A method according to claim 1, wherein said uplink message is transmitted using an access burst format.
13. A method according to claim 12, wherein a burst used for said uplink message and defined by said access burst format is transmitted four times in four consecutive time division multiple access (TDMA) frames, and wherein each acknowledgment of reception of up to four downlink messages is included in a different one of said bursts in said four consecutive frames.
14. A mobile station comprising means for combining acknowledgements for at least two downlink messages

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received from a communication network to which said mobile station is connected into a single uplink message to said communication network.

15. A communication network comprising means for transmitting downlink messages to a mobile station connected to said communication network, and means for requesting an acknowledgement of at least two downlink messages transmitted to said mobile station with a single uplink message.
16. A communication network according to claim 15, comprising at least a GERAN and a 3G core network, said GERAN providing access for mobile stations to said 3G core network.
17. A communication system comprising:
  - a communication network with means for transmitting downlink messages to a mobile station connected to said communication network and with means for requesting an acknowledgement of at least two downlink messages transmitted to said mobile station with a single uplink message; and
  - a mobile station with means for combining acknowledgements for at least two downlink messages received from said communication network into a single uplink message to said communication network.

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